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Joint Ruling

~~DCLU~~ DPD Director's Rule ~~8-98~~ SFD Administrative Rule ~~79.1~~34.01.04

Applicant:	**Page**	**Supersedes:**
City of Seattle Department of ~~Design, Construction and Land Use~~ Planning and Development Fire Department	1 of 4~~1~~1~~1~~1~~1~~	NA
	Publication: ~~2-1-99~~	**Effective:**

Subject:

USE OF PROTECTED ABOVEGROUND TANKS FOR FUEL STORAGE INSIDE BUILDINGS

Index:
Building Code

Code and Section Reference:
~~1997~~ 2003 Seattle Building Code: Sections ~~302.1; 307~~307 and 414

~~1997~~ 2003 Seattle Fire Code~~:~~ ~~Sections~~Chapter s 27 and 34 ~~7901; 7902; 8001; 8003; Appendix II-F~~

Section 2.2.5.2 of NFPA 30

Type of Rule:
Code Interpretation

Ordinance Authority:
3.060.040 SMC

Approved **Date**

BACKGROUND AND PURPOSE

Seattle Building and Fire Codes require that fuel storage inside buildings in quantities exceeding the ~~exempt amounts~~ maximum allowable quantities ~~allowed~~

established by Seattle Building Code (SBC) Table ~~3-D~~ 307.7(1) and Seattle Fire Code (SFC) Table ~~7902.5-A~~ 2703.1.1(1) must comply with the requirements of SBC Section 307.5 for ~~Group H, Division 3~~ High Hazard Group H-3 occupancies and SFC Section ~~7902.5.11~~ 3404.3.7 for liquid storage rooms. The purpose of this rule is to provide an alternative storage method for combustible liquids used in closed systems to fuel equipment such as emergency generators and fire pumps without having to meet liquid storage room requirements.

DEFINITIONS

~~APPROVED PROTECTED ABOVEGROUND TANK is a tank system that meets the criteria of Uniform Fire Code (UFC) Standard 79-7, is tested and listed by a nationally recognized testing laboratory in accordance with UL 2085 "Protected Aboveground Tanks for Flammable and Combustible Liquids," and labeled accordingly.~~

CLOSED SYSTEM ~~is a system that does not allow liquid or vapors to escape from it under ordinary conditions of use or handling.~~ The use of a solid or liquid hazardous material involving a closed vessel or system that remains closed during normal operations where vapors emitted by the product are not liberated outside of the vessel or system and the product is not exposed to the atmosphere during normal operation; and all uses of compressed gases. Examples of closed systems for solids and liquids include product conveyed through a piping system into a closed vessel, system or piece of equipment.

COMBUSTIBLE LIQUID. ~~is a~~A liquid having a ~~flash point at or above 100 degrees Fahrenheit (°F). Class II combustible liquids are those having~~ closed cup flash point~~s~~ at or above 100°F ~~and below 140°F. Class III-A combustible liquids are those having closed cup flash points at or above 140°F and below 200°F.~~ Combustible liquids shall be subdivided as follws:

> Class II. Liquids having a closed cup flash point at or above 100°F (38°C) and below 140°F (60°C).
>
> Class III-A. Liquids having a closed cup flash point at or above 140°F (60°C) and below 200°F (93°C).
>
> Class III-B. Liquids having a closed cup flash point at or above 200°F (93°C).

PROTECTED ABOVE GROUND TANK. A tank listed in accordance with UL 2085 consisting of a primary tank provided with protection from physical damage and fire-resistive protection from a high-intensity liquid pool fire exposure. The tank may provide protection elements as a unit or may be an assembly of components, or a combination thereof.

APPLICABILITY

This Rule applies to combustible liquids stored in approved protected aboveground tanks inside buildings.

RULE

When combustible liquids are used in closed systems for fueling equipment such as emergency or standby generators and fire pumps, the requirements of Seattle Building Code Section 307.5 for High Hazard Group H~~, Division -~~3 occupancy and Seattle Fire Code (SFC) Section ~~7902.5.11~~3404.3.7 for liquid storage rooms may be waived provided all of the following conditions are met:

1. The combustible liquids shall be stored only in approved protected above ground tanks installed in accordance with SFC Section 3404.2.9.6 and all other applicable requirements SFC Chapter 34 for installation of tank systems except as modified by this rule.
2. In Groups A, B, E, I, M, and R occupancies, aboveground tanks storing combustible liquids shall be located in accessory use areas such as parking garages, storage, boiler and mechanical rooms, maintenance shops, and rooftop locations.
3. Individual tank capacities shall not exceed 3,000 gallons.
4. The ~~A~~aggregate quantity of combustible liquids in approved protected aboveground tanks ~~in a single unseparated area~~ enclosed by a one-hour fire barrier shall not exceed 6,000 gallons.
5. The room where the tank(s) is located shall be protected by an approved automatic sprinkler~~s~~ system.

~~6.When an approved protected aboveground tank is located in an area subject to possible vehicular damage and the tank listing does not include vehicle impact protection, guard posts or other approved means shall be provided in accordance with SFC Section 8001.11.3.~~

~~7.Approved protected aboveground tanks shall be provided with integral secondary containment that is a component of the tank as required by UL 2085 Section 1.4. The method of monitoring and the capacity of the secondary containment shall be in accordance with SFC Section 8003.1.3.3.~~

~~8.Fill connections shall be located outside buildings, at least 10 feet from building openings and property lines, provided with a liquid-tight cap, and protected from possible vehicular damage. A metallic pipe shall extend to within 6 inches of the bottom of the tank to minimize the generation of static electricity. [SFC Section 7902.1.13.1.1] Note: The chief may approve distances to building openings and property lines less than 10 feet when a practical difficulty exists due to site conditions.~~

6. Filling, emptying and vapor recovery connections to tanks containing Class II or III liquids shall be located outside of buildings at a location free from sources of ignition and not less than 5 feet away from building openings or lot lines of property that can be built on. Such openings shall be provided with a liquid-tight cap that shall be closed when not in use and shall be properly identified.

~~9.Tank overfill prevention shall be provided, including an audible or visual alarm signal at the fill location to indicate when the tank is 85 percent full and automatic shut off of the flow of fuel when the quantity of liquid in the tank reaches 90 percent of tank capacity. [SFC Appendix II-F Section 5.4]~~

~~10.The fill pipe shall be provided with a means for making a direct connection to the supply tank vehicle's fuel delivery hose so that the delivery of fuel is not exposed to the open air during the fueling operation. When any portion of the fill pipe exterior to the tank extends below the level of the top of the tank, a check valve shall be installed in the fill pipe not more than 12 inches from the fill hose connection. [SFC Appendix II-F Section 5.5]~~

~~11.A spill container having a capacity of not less than 5 gallons shall be provided for the fill connection. [SFC Appendix II-F Section 5.6]~~

~~12.~~7. Emergency relief venting shall be provided in accordance with SFC Section ~~7902.2.6~~ 3404.2.7.4 except ~~.~~ Ethat emergency relief vents ~~for approved aboveground tanks inside buildings~~ may discharge inside a building. Emergency relief vents which discharge to the outside shall be designed to provide the venting capacity required by ~~SFC Section 7902.2.6.3.3.~~ Section 2.2.5.2 of NFPA 30. The vent capacity reduction factor shall not be allowed.

~~13.Normal vents shall discharge to the outside, not less than 12 feet above the adjacent ground level, at least 5 feet from building openings and property lines, and not under eaves or building overhangs. [SFC Section 7902.1.11.4]~~

~~14.Tank vent piping shall not be manifolded. [SFC Section 7902.1.11.6]~~

~~15.Approved flame arresters shall be installed in normal vents. [SFC Appendix II-F Section 4.4.3]~~

~~16.~~8. One or more portable fire extinguishers having a rating of not less than 20-B shall be located not less than 10 feet nor more than 50 feet from the tank storage area~~. [SFC Section 7902.5.11.5.2]~~

FIRE DEPARTMENT PERMITS

Fire Department permits are required to store, handle or use Class II or Class III-A combustible liquids in excess of 25 gallons inside a building or Class III-B liquids in excess of 1,000 gallons. Call 386-1025 for permit application and information.